

Main Currents

IN MODERN THOUGHT

September 1942.

Port Chester, N.Y. Vol. II, No. 11 F. Kunz, Ed. & Publisher Grace Tabor, Mng. Editor

COMPARATIVE PSYCHICAL RESEARCH

A Digest

Almost half a century ago a few members of the Society for Psychical Research began to realize that comparative research, similar to the comparative work done in other fields, was needed if anything more than speculative and pseudo-scientific findings were to be reached. Yet nothing of this character seems to have been done, even to this day, and "the few books which have dealt with the problem at all have been the work of psychical researchers, not of anthropologists." This fact makes the comparative study of spiritualism and shamanism by Victor Barnouw take on unique importance.

Shamanism is the "primitive religion of the Ural-Altaic peoples of northern Asia and Europe," according to the dictionary, which goes on to explain that the unseen world of gods, demons and spirits which are a part of it are conceived to be responsive only to the shaman - the beggar - monk or priest or conjurer who officiates. Suggesting that he has centered on a particular "culture area" and on one particular brand of "Savage" spiritualism in order to avoid the premature generalizations that sometimes occur in comparative research work, Mr. Barnouw limits his study to Siberia, "by which I mean particularly the Northeast tip of Siberia, inhabited by the Chukchee, Koryak, etc. (and) Bogoras' work on the Chukchee will be my main authority. By the West I mean the modern civilizations of Europe and America."

He has undertaken to see what elements may be found that are common to both Siberian shamanism and Western spiritualism, and his starting point is the "obvious problem: when are we dealing with comparable traits? To take one example, we have the practice of binding a shaman who is about to enter a trance." This is a curious custom which is found in many primitive cultures. Andrew Lang suggested in his time and it might be correlated with the practice of binding the dead body in preparation for burial, and that the shaman, by thus simulating the death of the body, helped to release his soul from his body as he passed into the trance state. If this supposition is right, there is nothing in the practice comparable with binding of the Western medium. This is done to insure against fraud -- to prevent the

Perhaps we should remind our readers, as we remind ourselves regularly and often, that the task MAIN CURRENTS has set itself is to bring together contemporary data in all fields as this flows from laboratories, conferences, studios, class-rooms, observatories and wherever those work who pursue the eternally intriguing and beautiful mysteries of Nature. So far as we know, no one has before attempted an over-all coordination of fact and law in art, religion, science and philosophy. We appear to be succeeding albeit it is a very difficult task - especially to do it with malice towards none, with charity for all, and with no offense to any ! If you feel continued confidence in our effort, the renewal of your subscription to MAIN CURRENTS at this time would be definite encouragement and practical help. Our volume II will end with the October issue. Subscriptions received now for volume III will greatly facilitate office work in place of piling it up; and for that we will be grateful also.

medium from intervening in the phenomena that may take place. A second great difference between the Chukchee and Western spiritualism is that, in the former, the spirits are not of the human dead, but of animal "assistants" to the shaman or medium. "In Western spiritualism the audience assembles to get into communion with dead friends and relatives. Accordingly the whole atmosphere of the gathering is quite different /from the Siberian assemblage/. In some modern seances, along with the nervousness and awe felt by the uninitiated, there is often an air of pious, forced-smiling benevolence on the part of the convinced spiritualists, springing from their belief in the perpetual-vacation-land atmosphere of Summerland. Whatever the attitude of the 'savage spiritualists' may be, it is certainly not this."

In the face of such divergencies and more, not quoted here, Mr. Barnouw poses the question whether comparison of the phenomena in the two areas of East and West is justifiable - and replies to his own question by saying. "I think that the answer will lie in a combing-through of the literature on the subject, and not in an abstract semantic or philosophical debate on homologies and analogies. If real similarities can be shown, many problems will arise. For instance: are the likenesses due to parallelism or to diffusion? In other words, have they come about through independent developments in the two areas, or are they the result of contacting and borrowing?"

Not until the elements common to the two forms of "spiritualism" have been noted and tabulated however, can such questions be dealt with. So he proceeds to a consideration first of the Seance as an outstanding feature common to Siberian shamanism and Western spiritualism -- that group of people coming together to get in touch with "another world of reality". A specially sensitive person -- the medium or the shaman -- "who has a foot, so to speak, in both worlds", brings about the rapport necessary between the two worlds - but "the nature of the other world and its inhabitants is quite different in the two areas," Mr. Barnouw reminds us.

In passing on to the Medium, the areas have in common that this person may be of either sex and "is usually a professional who gets paid for the services rendered. ... Bogoras assumes that family shamanism formerly predominated, to be slowly replaced by individual specialists. In such primitive groups, of course, shamans never live by their art alone. It is interesting to note here that the Fox sisters are said to have taken no money for their services at first - but finally their 'spirits' insisted on their doing so. This is precisely how Chukchee spirits behave, often stipulating their price beforehand."

The Procedure of the Seance deals with (1) the dark room which shamanism and spiritualism alike demand, (2) fasting by the Medium, the shamans abstaining from fats and rich foods before a seance, "to get inspiration", while many Western mediums are recommended to fast, especially to abstain from alcohol and meat. Then comes (3) binding the Medium, already mentioned, (4) preliminary singing, much more vigorous in the east, and a striking difference is that "the Siberian shaman continues to beat his drum throughout the seance, a feat which requires tremendous exertion, while most mediums in our (western) culture merely pass into a passive trance-like condition."

At last (5) comes the voices from the other world, sounding all over the room of the Chukchee dwelling. "The walrus and bear roar, the reindeer snorts, the wolf howls, the fox bays, the raven caws." Mr. Barnouw quotes this and much more from his authority on the Chukchee, Bogoras, with the comment that he does so "at length, because it is a rare -- and fascinating -- instance of an ethnologist carrying out a bit of 'psychical research.'" Production of voices is common in Western seances, but the voices of the dead rather than of animals. Often they speak through trumpets in the west -- and "incidentally it is interesting to see how the medium

Mrs. Cecil Cook explains the fact that only one spirit voice speaks at a time, in seances. The confusion of two voices speaking at once rarely occurs, 'for politeness in a true sense is observed most meticulously by those on the other side.' Mr. Barnouw comments drily that even the rude animal spirits described by Bogoras in Eastern Siberia were imbued with this other-worldly etiquette !

The movement of objects without contact is reported in both cultures and is ascribed in both to mischievous spirits. Interference with the spirits is practically forbidden both east and west, and to catch a materialized spirit or switch on a light in the middle of a seance is supposed in the west to be very dangerous to the medium, who may suffer a severe shock, while among the Chukchee it is believed the spirits may kill the shaman if they are interfered with. Or they may turn on the intruder.

Trance conditions are not common in the eastern culture, though they occasionally develop and are called the "sinking" of the shaman. During the trance his soul visits the spirits in their own world and seeks their advice and help, which is a close parallel to certain western practices. In both areas burning coals are handled with impunity; "speaking with tongues", technically known as glossolalia, is known east and west, in many lands and many periods of time, but in Siberia it manifests as a hysteria that the natives ascribe to evil spirits of foreign origin.

These similarities between the eastern and western practices are regarded by Mr. Barnouw as less significant than the psychological similarities. "This will be our most important problem. For it should be expected that the clue to those found may lie in certain similar psychic structures in the individuals who take up the profession." Yet these similarities in behavior prove not to be as striking as expected. "In some ways, the overt behavior of medium and shaman at their respective seances is strikingly at variance. The Siberian seance, although requiring tremendous physical effort on the part of the shaman, seems to invigorate and 'cure' him. In the Western seance however, where the medium is in a passive state, the sitting results in a tremendous loss of power. Speaking of Chukchee shaman, Bogoras says, "The same shaman who was nervous before the performance, regains after it his self-possession and looks really as if he were braced up by some strong tonic." This notwithstanding he has been beating the drum perhaps for hours on end; but he "cannot show any loss of energy, because the spirits do all the work, and he has done nothing at all." Which is the complete antithesis of the condition of the Western medium after a sitting. "Weak, drawn, ill, nauseated, hysterical, deeply lined about the face, physically and mentally ill - such was the wreck of her former self which we perceived at the conclusion of her first two-hour seance," is the description given of a western condition by a western observer and writer. In this connection it is of interest to learn that the Eskimo shamans follow the Western pattern rather than the Chukchee. One writer describes a shaman after a seance, as being "extremely weak, covered with sweat, and with spittle running down his chest. When his bonds were removed, the shaman fell back in a state of coma."

Leaving the seance room altogether, shaman and medium are both credited with clairvoyant powers, on the basis of which they give advice. This is not attributed to the work of spirits but is a "kind of internal, subjective inspiration, after self-communion for a few moments." And the Chukchee shamans often display much wisdom and circumspection in giving advice, "especially when they have to deal with matters out of the reach of their knowledge and understanding. Most of our mediums similarly claim the faculty of clairvoyance and give advice about love and financial matters."

In a recapitulation of the points of similarity, the author points out that we are not dealing with "any identical parallelism but with two somewhat similar complexes of traits. How are we to explain these surprising similarities ? ... Whatever the answer may be, I think we must realize we are dealing with a collection

of traits, which somehow possess an essential interconnection although they may seem to have none. If more areas of the world were studied in this way -- wherever 'savage' spiritualism is found -- we might be able to demonstrate the existence of a 'spiritualist Gestalt'. The main problem is what the binding factor may be -- what is it that gives birth to similar spiritualist complexes in different parts of the world, be it trickery, hysteria, spirits, multiple personality, or some combination of these factors, etc. ... Belief in spiritual beings investing all parts of the universe and intervening in human affairs is a timeless one. The nuns of Loudon were possessed by demons; the Tremblers of Cevannes were inspired by a divine afflatus. The spiritual entities of the Rosicrucians and of Paracelsus were creatures of the elements, sylphs, gnomes, undines, salamanders, or beings still more remote from humanity." In Europe prior to the eighteenth century, many of these spirits were not considered human but demonic or divine. "The first person claiming to have contact with human beings in the spirit world, or at least the first to build up an elaborate spiritualist philosophy about it was Emanuel Swedenborg." Another stream which flowed into the spiritualist movement came from the animal magnetism demonstrations of Anton Mesmer, and "the seance is thus a late development in Europe and America, not existing prior to 1848. Podmore never emphasizes this point about the seance but it seems to me a vital distinction, which emerges clearly from a reading of his history. We can definitely trace its genesis in America and the consequent diffusion to Europe. ... Returning to our problem about the similar 'spiritualist complexes' in Siberia and the West, we are able to rule out not only 'survival' and 'revival' but diffusion and parallelism as well. Travelers' accounts describing shamanistic practices in Siberia antedate the origin of modern spiritualism. ... What we are evidently dealing with is a complicated example of convergence, if we follow Goldenweiser's definition of the term: 'we speak of convergence when two or more developmental processes starting from distinct origins and pursuing somewhat disparate paths culminate in cultural features or processes which are highly similar.' But by producing this magic label we have not solved our problem, but merely reintroduced it: how can we explain the independent development of similar 'spiritualist Gestalt?' Inevitably we look for our answer in psychology, hoping to find some similar psychic patterns in medium and shaman which will help to explain the similarities which we have found in the seance.

In shamanism the call to action manifests in early youth. "Sometimes an inner voice bids one to make contact with the spirit world. The spirits may appear in person -- or else one may meet a certain animal or other omen. Young people are usually reluctant to accept the call, but rejection is considered even more dangerous than acceptance. ... Some young people prefer death to following the commands of the spirits. For men, the preparatory period is long and painful; for women less severe and shorter and sometimes lost with the birth of the first child. It is therefore of a lower order in women than men and more superficial. The shaman novice begins to lose all interest in the ordinary affairs of life, ceases to work or talk, does not answer when questioned, eats little food -- spends most of his time asleep, it seems, staying in the inner room of his dwelling or wandering in the wilderness. In the latter case he must be watched to prevent his falling asleep in the snow. In fact the preparation is like a sickness and the coming of shamanistic power is the recovery; and when inspiration is upon him the shaman must practice and demonstrate his powers or become the victim of a bloody sweat or a mad attack similar to epilepsy. One of these men is quoted who described his experience: "When I was twenty years old I became very ill and began 'to see with my eyes, to hear with my ears' that which others did not see or hear; nine years I struggled with myself and I did not tell anyone what was happening to me as I was afraid that people would not believe me and would make fun of me. At last I became so ill I was on the verge of death, but when I started to shamanize I grew better; and even now, when I do not shamanize for a long time I am liable to be ill."

The call may come to older people but generally seems to be associated with puberty, and it is said one cannot become a shaman after the age of forty. And

there are Siberian shamans known as "soft men" transformed men who have changed their sex and live as the wives of men. These have also "supernatural husbands" as well as the mortal ones, and are said to excel in shamanism. One writer quoted by Mr. Barnouw - M. A. Czaplicka, the anthropologist - believes that hysteria is the real basis of shamanism, but says that if this is the case it differs from ordinary hysteria because of the great power of self-mastery which the shaman possesses. His attacks come only when he wishes them; and he is considered superior in his community. Another observer, Sieroszewski, says of them: "...the wizard who has the vocation, the faith and the conviction, who undertakes his duty with ecstasy and negligence of personal danger, inspired by the high ideal of sacrifice, such a wizard exerts an enormous influence upon his audience. After having once or twice seen such a real shaman I understand the distinction that the natives draw between the 'Great', 'Middling' and 'Mocking' or deceitful shamans." Also it seems definitely established that, whether it is hysteria, nervous disease or what, a shaman who cannot control and invoke his spirits at the right times, ceases to be a shaman.

In summing up, the author says: "More seems to be known about Siberian shamans than about mediums in our own culture. The material here is vague....they are like other people." One very interesting factor observed by more than one student in the west however, is that "spontaneous" poltergeist phenomena occur in the presence of the half-witted or epileptics; which brings to hand what Iamblichus said in a letter to Porphyry on the subject of levitation, "The more ignorant and mentally imbecile a youth may be, the more freely will the divine power be made manifest." Mr. Barnouw considers there is significant correlation between the occurrence of phenomena that take place in the seance room also taking place spontaneously in the presence of epileptics or hysterics, and suggests that if it is possible for a section of the personality to act outside the body, we "would have new insight into the nature of magic and clairvoyance. It would help to explain, among other things, why both these functions -- clairvoyance and the making of magic -- are generally centered in the shaman; and it would illuminate the interrelation of the various components of the 'spiritualist complex'. But of course, as I realize, these theories are unorthodox to say the least, and would require much fuller documentation to be defended." Hence he concludes: "For a further understanding of the practices of both shamanism and Western spiritualism we need ethnological and psychical research, as well as a greater knowledge of abnormal psychology."

SIBERIAN SHAMANISM AND WESTERN SPIRITUALISM. Victor Barnouw, in Journal of the American Society for Psychical Research, July, 1942. G. T.

Are supernormal phenomena a manifestation of a faculty or faculties existing in all people, but dormant in the majority of people? If they are existant in all of us, however unsuspected, what are the conditions necessary to facilitate their manifestation or to inhibit it? "What physical or mental processes, and what biological characteristics are correlated with (such) supernormal phenomena? The techniques of the biological sciences - physiology, biochemistry, and psychology in particular - must be employed in an attempt to identify and isolate these relevant characteristics."

This is the stimulating approach which Dr. Hyslop urges upon his confreres and himself makes use of, to govern investigations into those still unexplained happenings in the realm of supernormal phenomena. He points out that it can be assumed, broadly speaking, that since mediums are human beings they are subject to the same biological laws which govern other human beings, and that mediumistic phenomena at least, whether normal or supernormal, must follow natural laws. "The assumption that a medium is a person possessing a faculty not shared by the rest of humanity or shared only to a slight extent, leads us nowhere unless we can enumerate and measure the similarities and differences between mediums and non-mediums, thus discovering the conditions that accompany or have some causal connection with apparent supernormal phenomena."

Pointing out that psychology has made tremendous gains in the last thirty years, he urges that research in this field (of supernormal phenomena) be kept abreast of psychology and its day-by-day developments. "The medium must be studied from more than one point of view is psychical research hopes to come to any final conclusions ... or to understand the laws governing the occurrence of other phenomena now regarded as 'supernormal'." And at this point he reminds us that "with increasing knowledge the 'supernormal' or inexplicable becomes less and less mysterious, more subject to control, and hence approaches the 'normal'. The broadly trained physician who is soundly oriented in the various biological sciences may appreciate as well as the philosopher the importance of the phenomena dealt with by psychical research. The physician who is sufficiently trained in psychology would not be prone to explain the inexplicable as the product of some simple and well-known body activity."

Citing three of his patients who developed supernormal experiences which he describes, when they were under the circumstances of their physical disability, Dr. Hyslop explains that he does not wish to imply that supernormal phenomena are medical problems to be solved by a physician, and he specifically says that "there is no justification for believing that mediums are 'sick' people. To this adds however, "I do believe that these three cases show the importance of the biological approach to further study of mediumistic and other supernormal phenomena." And he concludes, "In psychology, knowledge of the abnormal helps one to understand the normal. In the science of medicine, knowledge of disease amplifies the knowledge of health. In psychical research, there well may be a comparable or analogous relationship between the special phenomena called supernormal and all the various normal phenomena occurring to the biological unit known as man."

THE BIOLOGICAL APPROACH TO PSYCHICAL RESEARCH, by Dr. George H. Hyslop, in the Journal of the American Society for Psychical Research, April, 1942.

ELECTRICAL STIMULATION

In India's Agriculture.

Report on electrocultural methods introduced by Nehru in Mainpuri, United Provinces and by Noel in Peshawur, N. W. Provinces. Methods used: (a) Sparking -

done by connecting one end of an electric cable to a magneto of a motor-car and the other terminal to the object or material to be energized and then rotating the handle of the magneto $\frac{1}{2}$ to 1 minute. Seeds to be treated are placed on wire gauze or insulated stands. Water was often used for transmission of energy and in that event the loose end of the coil is dipped in water and the magneto turned for half a minute. Generally called "sparked" water, when sparked water is used as a spray the process is called "Agaskarisation" after Agaskar. (b) Jacketing - enclosing the tree or object with poultry wire netting, 3 inches of which is buried in the soil. (c) Mitogenetic rays - roots of onion, damaged leptone bundles of potatoes, cotyledons of sunflower, mash of yellow beet and pulp of sedum maximum are reported to emit those rays. To utilize the beneficial effects onions are planted around the trees or the irrigation water is passed through a series of furrows having onion plants on the sides, and then used for irrigation. M-rays create a field of energy similar to an electric field. Statement I gives the effects of treatments on annuals, perennials, animals and humans. Author's observations were limited to wheat seedlings and strawberries raised in pots, sugar cane, colocasia, melons, gourds, mango, citrus, pomegranate, papaya, falsa, peaches and plum trees: he also treated poultry, buffaloes and human patients. In the main the treated plants were superior to the untreated ones. At a number of villages, sickly and dying mango trees were rejuvenated and put forth shoots as a result of jacketing. Remarkable fruit bearing of mango trees was observed at Bahrane as a result of jacketing and of irrigating with "sparked" water. There was a 50% increase in yield from jacketing of peach trees. Statement IV reports poultry and poultry products improved when fed on grains soaked in "sparked" water, while a buffalo fed on sparked straw and concentrates looked healthier and bulkier. Buffaloes also increased their milk and yielded a better quality of butter where supplied with electrified feed. Human ailments respond to "sparked" water and "sparking". (Cecil Yampolsky reporting in Bio. Absts. for April, 1942 on "Electrocultural Methods practiced in Northern India", by V. R. Ayyar.)

COLOR AND LIGHT: Five Items

1. Japanese Beetles Like Yellow

"Federal entomologists report that Japanese beetle traps painted yellow are definitely superior to those painted green and white, aluminum, white, etc." In the experiments, the yellow trap captured 50.8 per cent more beetles than the green and white standard trap commonly used. Addition of yellow to other pigments always enhanced their effectiveness also...." (Agricultural News Letter, May-June 1942.)

2.

Chicks Must See To Eat

Growth and development of 3,760 chicks were observed for 4 and 12 weeks in rooms in which the ceilings and walls were painted white, violet, blue, black, gray, yellowish green, red, and red and dark green. From the results it became apparent that light intensity was more important than the color of the light. Chicks in a low light intensity did not learn readily to eat, and some never learned. In the black, blue, red, and red and green pens, relatively little light was reflected and initial mortality was high. Colors of high reflectivity were favorable to growth, but after chicks were taught to eat they also grew well in low light intensity. Neither the color nor the intensity of light to which the pullets were exposed during the first sixteen weeks of their life affected live weight, egg production, or fertility or hatch ability of the eggs. (U. S. D. A. Experiment Station Record, March, 1942, pp. 370-371.)

3.

Blue Light Slows Down

From the Soviet Acad. of Science, N.A. Aneli reports that under the influence of blue light the biochemical processes of germination in tomato seeds undergo an

essential change such as to cause delayed germination. The catalese activity, respiration rate, and fat consumption were notably depressed, whereas the syntheses of disaccharides and in part of starch, were heightened. After stopping the irradiation, all seeds then held in darkness for 5-7 days germinated vigorously and were only slightly inferior to the control untreated seeds. (U.S.D.A. Experiment Station Record, March, 1942, p. 308.)

4.

Color Inhibition and Recovery

Strong dosages (20,000 - 50,000 ergs per mm²) of ultra-violet, predominantly of the wave-length 2537 Å, greatly retard and inhibit the development of rhizoids in *Fucus* eggs irradiated at about 8 hours after fertilization. If white light shines on the eggs after the irradiation by ultra-violet is terminated, the white light causes a considerable degree of recovery from the retarding and inhibiting effects. If strong white light shines on the eggs during the ultra-violet irradiation, its effect is even more marked in protecting the cells from the damaging effects of the ultra-violet. (D. M. Whitaker, Stamford U., in Jour. Gen. Physiology. 25 (3): 1942, reported in Bio. Absts.)

5.

Effect on Cells and Tissues

A study has been made of the effect of sudden intense flashes of u.-violet, acting on a wide variety of cells and tissues, with special reference to stimulation. The flashes are obtained by a high voltage condenser discharge through a quartz mercury steri-lamp, using the methods of Reutschler. The lethal effects of a single such discharge is widespread among unicellular organisms. Medullated nerves and whole muscles are not visibly stimulated, because of absorption by connective tissue. Simple muscle fibers undergo immediate contracture in half of the experiments. *Nitella* cells are stimulated, the effect depending on the dosage. Weak u.-violet flashes slow or stop cyclosis reversibly; strong flashes stop cyclosis reversibly with the appearance of a local or a propagated action potential: very strong flashes kill the *Nitella* cells. The effect of single flashes on myonemes, oscillatory movement, ameboid movement, cilia, flagellae and bioluminescence is described in the text. (E. N. Harvey, Princeton, in Jour. Gen. Physiol. 25 (3): 1942, reported in Biol. Absts.)

SUPER MUSIC AS STIMULANT

Used by Soviet Scientists

Experiments performed this summer at the high-frequency laboratory of the State X-Ray Institute in Moscow, in the use of "supersonic" waves, report the surprising increase in the yield of potatoes from "sonized" plants at 64 to 69 per cent. These supersonic waves are of such high frequency that they produce no audible (to the human ear) sound, however they may be considered as a music of supernal kind. Seed potatoes were submerged in water and exposed to these waves - for how long the report does not say. After such exposure they were stored for a short time, then planted in the usual manner. They sprouted sooner and blossomed earlier by several days than control plants grown from untreated tubers. (Science Service for July, 1942)

AWARD IN BIOCHEMISTRY

Carbon Dioxide in Animals

The Eli Lilly Prize of \$1000 awarded this year by the American Chemical Society to Dr. Earl A. Evans, Jr., Assistant Professor of Biochemistry at the University of Chicago, is in recognition of his research resulting in the discovery of carbon dioxide in the animal body. This is a revolutionary surprise, for carbon dioxide has always been believed to be only a waste product in the animal economy, albeit useful and necessary to plant life. But by the use of the "tagged atom" method Dr. Evans has proven that it participates in certain reactions in the liver during the oxidation of sugar, and that it is further utilized in many types of animal cells. (N. Y. Times, April 1, 1942)

The retiring Chinese Ambassador, Dr. Hu Shih, believes that it is only with something on the order of the League of Nations that the weaknesses of the old international order can be corrected. The League to Enforce Peace, organized back in 1915, around the central idea of "some kind of international organization based upon the principle of a threat of overwhelming power to prevent aggressive war", has never been given a real trial, though it was supposed to become a part of the League of Nations Covenant. Having himself been a "reasoned believer in the doctrine of non-resistance" as taught by Lao Tze and later by Christ, he explains, it was many years before he realized that all force or power was not condemned by these teachers, but rather that "the doctrine of non-resistance can only mean either that non-resistance is under certain conditions an effective form of resistance; or that non-resistance is in reality the individual yielding the right of revenge to a higher and supposedly more impartial power."

In this article Dr. Hu Shih sets forth some of the philosophical implications of this idea with the hope of breaking down prejudices, held mainly by religious pacifists and believers in nonresistance, against the idea of force as a necessary requisite to peace and order. These views are amply supported by the teachings of both Jesus and Lao Tze. The latter interpretation assumes as its very foundation the existence of a supreme force or power and a well-ordered universe ruled by that power. Fundamentally, the question is not one of the condemnation or the justification of force, but rather whether "vengeance" should be meted out by the parties involved or should be left with that greater power. Now in our human relations "progress in law and government...is in a sense an imitation, however imperfect, of that supreme moral order implied in the doctrine of nonresistance, by creating on earth some higher power to which all interested parties in a dispute may resign their private and 'natural' rights of redressing injury and administering rough justice by themselves.

The nature of force and its organization (which is law) are given a wider interpretation in some of John Dewey's writings of a quarter of a century ago. "Force," he says, "figures in different roles. Sometimes it is energy; sometimes it is coercion or restraint; sometimes it is violence." "Energy...is power of doing work, harnessed to accomplishment of ends....Exactly the same force running wild is called violence... and is objectionable because it defeats or frustrates purpose instead of executing or realizing it....Coercive force occupies a middle place between power as energy and power as violence."

Dewey's theory of law and government as organs designed to cope with a situation of "actual or potential conflict and resulting waste in the absence of some scheme for distributing the energies involved", shows the same regard for economy. Naturally an international league to enforce peace was viewed with favor in the light of such conceptions of force and law. "If law or rule is simply a device for securing such a distribution of forces as keeps them from conflicting with one another, the discovery of a new social arrangement is the first step in substituting law for war."

Dr. Hu Shih believes that such a philosophy of force will help us to realize that "the real tragedy of mankind today is that the nations have never learned to use force effectively and efficiently, that a stupendous amount of power is being expended in most wasteful and destructive ways, and that...probably the most efficient and economical use of force in human society is to socialize and internationalize it--to place overwhelming force behind the maintenance of international peace and order." (Asia, May, 1942. G. B.)

It seems significant and certainly it is encouraging to find in house organs and trade journals generally a growing expression of thought that is concerned with vital problems - thought that is sound and a genuine contribution to contemporary life. The following abstract, condensed from an article in the trade sheet of the Philadelphia Quartz Company, is a case in point. "We Americans have long seemed to other countries to be obsessed with the idea of bigness. ... the size of our industrial operations ... has profoundly affected our habits and has not been without influence upon our pattern of thought; but the success of our adjustment to this depends upon another type of consideration - the relationship between the quantitative and mechanical side of life on the one hand, and the qualitative and spiritual on the other. It is not only armies and dictatorships which have laid their withering hand upon countless innocent people. It is the philosophies from which the quantitative acts proceed which make the difference between a good, moral and happy society and one dominated by fears, hatreds and repressions. In such a scene it is well to think of the universal moral and religious emphasis upon the qualitative side of life. Military domination, violence and injustice were not strange to the people of the first century A. D., nor were they unfamiliar to the mind of the great Teacher whose birth marked the opening of this era. His emphasis upon the qualitative aspects of life still carries across the eighty generations of men that have intervened since."

These basic moral teachings "cannot be measured in units of length or weight or volume. Yet they have a validity which has survived enormous attack across the centuries. ... We suggest that it is no more possible to suspend the moral law and come out with a correct and enduring conclusion, than it would be to suspend the law of gravitation by an act of Congress. This would be very like what the authorities of his day tried to do in the case of Copernicus. To be sure it is often very costly to choose the qualitative when the quantitative confronts us on all sides, but it is the way of the prophets and the saints who have, across the generations, raised a concept of society from the level of purely animal selfishness to a vision at least, of spiritual attainment. This vision is non-metric, but magnificent. It is needed in this hour as never before in the world's history." (SILICATE P'S & Q'S. Dec., 1941.)

THE AMORAL ATTITUDE

Decadent in Human Affairs

Stimulating indeed is a recent article by Mr. Lin Yutang in which he analyzes the immediate situation, with its conflicting ideas regarding the conditions that shall follow the termination of war. He says, "The United States is now standing at the crossroads: one road leading to a better and higher world order based on equality and cooperation of all nations, the other leading to world mastery or world domination through sheer military force, by America in the exclusive company of Britain and excluding Russia and China and all other countries. These two tendencies of thought are basic; this is the war about the peace. Their conflict is necessary and inescapable, and between world mastery and world cooperation there is no other choice."

He accuses modern Western scholarship of being amoral, "which is a splendid attitude in regard to the natural sciences, but downright decadent in the sphere of human studies." This is the whole point of his article he avows, maintaining that "that academic attitude, deprived of warm emotions for our fellowmen, is a dangerous attitude to teach in our college classrooms." He concludes that "this trend of thought produced a Hitler, and might produce more Hitlers ... wherever this type of mental attitude prevails." The method of strict objectivity, useful in natural sciences, "is unreliable and dangerous in the human sciences ... objective thinking

in human relations is an impossibility and never exists. ... the world is not so simple as these pseudo-scientists like to imagine." (THE WAR ABOUT THE PEACE, by Lin Yutang in Free World, July, 1942.)

DIVERSITY OF CULTURES

As They Affect Social Order

Recognition of the values of every world culture must occur before true world unity can be established, in the opinion of Mr. Frank. "Like the classical Greeks, we Westerners still regard those who speak a different tongue and attempt to order their lives to a different design, as barbarians, to be pitied for their benighted condition and to be exploited or degraded" by the superior people who bear the "white man's burden." Hitler's assertion of a German master race has revealed "in all its stark ruthlessness and ... almost paranoid distortion, what Western European culture has accepted as the major premise of its international relations." But human beings are essentially the same the world over. Racial and national cultures are their effort to solve the particular problems of environment with which each group is faced. "So soon as we begin to regard diverse cultures as so many different answers proposed by man to the same tasks or questions ... we may find it less difficult to think of world order ... in terms of orchestrating cultural diversities to the larger theme of achieving meaning and significance, values and order in human living. ... Indeed world order may be approached as an art, where the artist achieves universality, not by a composite blend of all scenes, peoples and situations but by the very individualized, idiomatic personalities and concrete situations he presents in all their multidimensional but highly specific patterns." Under this concept it appears that "in the effort to establish a world order we must start with the acceptance of the diverse cultures all over the world, with a sympathetic understanding of their basic similarity of purpose and process. ... The brotherhood of man will come through the realization that all men, everywhere, face the same life tasks, share the same anxieties and perplexities, bereavements and tragedies, seek the same goals. These goals are to make life meaningful and significant, to find some security, to achieve some social order and to regulate conduct toward values that make life more than mere organic existence." (WORLD ORDER & CULTURAL DIVERSITY, by Lawrence K. Frank, in Free World, June, 1942.)

THE ISSUE TODAY IS FREEDOM

According to Pearl Buck

In a letter written by Pearl Buck to the N. Y. TIMES, she asked "Is Democracy right or is it wrong? If it is right, then let us dare to make it true." Mrs. Roosevelt opens her review of "American Unity and Asia", latest book by Mrs. Buck, by quoting this, and then goes on to interpret it. "In other words, we must build up in human beings throughout the world a sense that we really believe in democracy, and that we intend to meet the problems which it brings, whether at home or abroad, with the faith that they can be solved in a democratic way." Of the letter in it to Colored Americans, Mrs. Roosevelt says "I should like to see one part of it read and reread by every person in this country: 'If democracy did not win, the white people would have to make themselves in a great standing army, highly trained, constantly prepared to keep the colored people subdued - and there could be no greater slavery than that necessity. It is possible ... that in such a place as Australia there might be white people made slaves by their conquerors, just as white people now are slaves in certain countries and no less slaves because their rulers are other white men. The issue today is not one of race, colored or white. The issue is freedom!'" (Review by Eleanor Roosevelt in NEW REPUBLIC of American Unity and Asia, by Pearl S. Buck. Aug. 3, 1942.)

In the midst of war it is already time to think of what is to come after war; and there are groups of women who have undertaken to carry their cooperative activity which the war has brought about, into as active cooperation for peace. One such group, which may be regarded as typical and might be taken as a model for others, consists of thirty Tacoma women who spent Monday mornings together for many weeks during the winter and spring of this year, in study at the Y. W. C. A. They called themselves a study group on "World Organization for Peace" which is a nationwide movement, not to be confounded with general peace organizations however, since it does not concern itself with efforts to bring about peace, but rather with preparations for the time when peace arrives; when war has worn itself out and the reorganization of this distracted world is possible.

Asking two major questions, each of which they sub-divided into two further questions, these women read, studied, brought in reports and discussed. A big blackboard was in constant use, where outlines were made, remade and finally agreed upon for each day's study. The questions were these: (a) What were the characteristics of the pre-war world; and (b) what has brought it to war the second time within a generation? (a) What kind of a world do we want in the future; and (b) how shall we get it? Taking the first question first, it developed these answers: The world in which we lived, the pre-war world, was one "lacking new frontiers, one of close communications and of restricted movements of its peoples. This world was a competitive one, arrived at a crisis phase. New experimental systems had evolved such as the League of Nations, totalitarianism, communism. None of these were effective." The outcome has been war. This war is economic in cause basically, but it is implemented by various psychological, racial and other factors.

With these things established the group turned to the second major question, discovering almost immediately that co-operation must be the keynote, co-operation as complete and one-visioned as our present absorption in war preparation. "A world political organization is obvious, with a partial surrender of national sovereignty." In the concept of this over-all organization there appears a world police force, international control of air transportation and traffic, and a complete education in citizenship for a world state. In effect, the conclusions expressed in these terms can be summed up in the simple statement that "the earth is the common inheritance of all mankind." With this recognized and established as the governing principle it follows that "economic reorganization, with planning, within and between nations, is essential for a durable peace." First there must be an educational program on peace aims - and already studies to this end are going on widely but quietly in cities and hamlets and rural neighborhoods. Second - only it is hardly second, being instead all-embracing - "we must plan on a transition period before treaties are signed". Then there must be: third, now and continually a developing expectation of change and a toleration for it. This last indeed is perhaps the greatest immediate need, since resistance to change is so largely instinctive that masses of people mistake it for a virtue. But "the world must be run for people, not institution", however hoary and respectable these are. Groups such as this one are a sure guarantee that there is an awakening to this among "the people". This awakening occurs slowly but surely. Its occurrence is the opportunity to promote cooperative effort for the peace and for reorganization - right along with the cooperative effort to win the war - by keeping thought "fixed ahead upon the real goal - a peoples' peace, made by ourselves .. for the lasting enjoyment of the fruits of our common inheritance, the globe on which we find ourselves." (Ethlyn Miller Hartwich in TACOMA TIMES, July 3, 1942.)



*Think where we would have been now if in the dark ages men like Copernicus, Galileo, Albertus Magnus, Roger and Francis Bacon had been able to carry on their scientific investigations in an atmosphere of intellectual freedom. Our most difficult sciences might now have reached the stage occupied by biology, for example, and we might already have found a remedy for our present sick civilization. (Science 95, 1-10, Jan. 2, 1942.)

THE MILKY WAY

Whence and Where

Dr. Harlow Shapley, director of Harvard Observatory, in an address before the Inter American Astrophysical Conference, declared that by studying hundreds of thousands of great systems of stars, each comparable to our own milky way, it should be possible to work out whence our own system of stars came and where it is going. Three quarters of the great aggregations of stars have spiral arms which hitherto have been thought of as streams of stars thrown off from the central portion of the galaxy. These arms actually appear now to be condensations within the system, rather than ejections. Out of such study will come more information on the age of the universe, and indications of whether it is finite in size and material, or limitless in one or both of these qualities. (Science News Letter 41,149, Mar. 7, 1942)

EVOLUTIONS IN SPACE

Along the Milky Ways

"Astronomers are in doubt as to which course evolution is taking in spiral universes like the Milky Way. Some universes, like the Magellanic clouds that have no characteristic structure, probably have not started on their evolutionary course, but among the others there are two general forms. One is the spiral form, like Andromeda, and the other the ring form, like the nebula in Lyra. It was thought possible that the arms of the spiral form would spread out gradually until the ring form was attained as a dynamically stable structure. Dr. Gunnar Randers, of the University of Chicago, recently 'mathematically disturbed' the stable ring structure and found that it is unstable and will break up eventually, probably leading to a structure such as the spirals. It now seems more probable, he said, that the rings develop into spirals rather than that the spirals develop into rings." (New York HERALD TRIBUNE, March 8, 1942.)

OUR GLOBAL BEGINNING

And High Temperatures

According to Dr. Subrahmanyan Chandrasekhar of the Univ. of Chicago, the material of the universe was originally so compressed that the entire mass of the earth would have fitted into a good sized gravel quarry. The temperature in this pre-stellar universe was more than 8 million degrees centigrade. This hypothesis is based on the pressures and temperatures necessary for the formation of various elements. The heavier the element, the higher the temperature and pressure needed. At temps. of 8 billion degrees lead and gold are formed in only very small amounts; to explain the present proportion of these metals, it is therefore necessary to assume that extreme pressures and temperatures once existed. (N.Y. Herald Tribune June 28, 1942)

On the front page of its September 1st issue, the N. Y. TIMES had this item: "A hundred scholars adjourned a five-day effort on behalf of democracy with a declaration yesterday at Columbia University that the 'intellectual confusion' of a generation still prevailed in their varied fields of knowledge." As a matter of fact, these hundred men issued a formal statement declaring that in this, their third annual Conference on Science and Religion, "its continuing efforts to have the members think together with a view to action had shown they have still to learn how to do it." They have found they must "develop a technique of mutual instruction", and have decided they must next year call in "men of affairs" -- after last year adding men of art and letters to the original Conference, which was composed of scientists, philosophers and theologians.

Is their failure due possibly to their insistence on looking only to standard academic and laboratory sources? If they asked boldly "yes or no, is there prima facie evidence for super-physical elements beyond the known physical, "they would be compelled to answer in the affirmative. There is such evidence. In the fourth dimension in physics first of all; there are mountainous accumulations of it in the realms of bona fide psychical research; it occurs in biology and indeed life is inexplicable without hyperspace. Very well; then the super-physical must have properties and parts and these may be found and studied.

Yet the simple question has never been proposed and has never been faced during these three years - hence no decisions and no progress. Their attention was called, in a press interview, to the fact that that their statement included this sentence: "There is need, finally, for man to increase that increased measure of knowledge which, according to Francis Bacon, brings men back to God." The four members of the Conference deputed to expound the statement were asked if this meant that scholars are going back to God. Professor Overstreet of the College of the City of New York answered that he would not put it quite that way, explaining that "The scientist has simply come to recognize the right of the theologian to get at the problems of life in ways other than the scientific method." Father Phelan, of the Pontifical Institute of Medieval Studies in Toronto said much the same thing - "The scientists recognize the validity of other methods." To which Professor Overstreet added that "a poet may find a way to truth. So may a theologian. The scientist does not have to accept it. Spirituality is variously defined. The theologian may think it means a belief in a personal divinity. Another person may say by spiritual we simply mean a sense of the highest values accessible in life, and it may not imply a divine being at all." Rabbi Finkelstein, president of the Jewish Theological Seminary of America and one of the originators of the conference, interpreted its reference to a "pluralistic civilization that must emerge out of any study of the situation", to mean that the different fields of thought would be connected the same as each of the United States is connected in the Federal Government. The Conference as a whole, judged on the evidence of its rather lengthy statement as printed in full in the TIMES, seems to be getting nowhere so fast that the wonder is it does not depart, in sheer desperation, from its delimiting standards. Men like these should find out startling things, if once they were to set themselves free. G. T.

A NEW ENTITY

Within the Science Concept

In addition to atoms and genes as described by the author in other articles, the world may possibly contain entities having private character and the capacity for introspection, such entities to be called monads. Illustrations might be Driesch's entelechy and psychic phenomena, as well as such things as mind, soul and spirit. (L. J. Lafleur in March Bio. Absts. on "What is a monad?" by Wm. Marias Malisoff, Brooklyn Polyt. Inst., in Phil. of Sc. 7(1): 1-6. 1940. --).

